

POTAPOV, M.I.

Anti-~~N~~ agglutinins of plant origin; report no.2. Sud.-med.ekspert.  
6 no.1:30-34 Ja-Mr '63. (MIRA 1612)

1. Nauchno-issledovatel'skiy institut sudebnoy meditsiny (dir. -  
prof. V.I. Prozorovskiy) Ministerstva zdravookhraneniya SSSR.  
(AGGLUTININS)

REPIN, N.Ya., dotsent, kand. tekhn. nauk; BEREZNYAK, M.M., dotsent,  
kand. tekhn. nauk; POTAPOV, M.I., gornyy inzh.

Improve boring and blasting operations in coal pits of the  
southern Kuznetsk Basin. Ugol' 38 no.9:34-37 S '63.  
(MIRA 16:11)

1. Kemerovskiy gornyy institut.

POTAPOV, M.I.

Phylogeny of group antigens in man. Zhur. ob.biol.23. no.6:  
417-426 N-D'62. (MIRA 16:7)

1. Nauchno-issledovatel'skiy institut sudebnoy meditsiny Mini-  
sterstva zdravookhraneniya SSSR, Moskva.  
(BLOOD GROUPS) (PHYLOGENY)

POTAPOV, M.I.

Incomplete partial anti-B antibody of the agglutinoid type  
from Sophora japonica L. seeds. Biul. eksp. biol. i med. 53  
no.5:98-103 My '62. (MIRA 15:7)

1. Iz Nauchno-issledovatel'skogo instituta sudebnoy meditsiny  
(dir. - zasluzhennyy deyatel' nauki RSFSR prof. V.I. Prozorovskiy)  
Ministerstva zdravookhraneniya SSSR, Moskva. Predstavlena  
deystvitel'nyy chlenom AMN SSSR N.N. Zhukovym-Verezhnikovym.  
(ANTIGENS AND ANTIBODIES) (SOPHORA)

POTAPOV, M. I., Cand Med Sci -- (diss) -- "The formation of precipitins in rabbits with intracerebral administration of antigen and of nonspecific stimulants". Moscow, 1960. 18 pp (Second Moscow State Med Inst im N. I. Pirogov), 250 copies (KL, No 15, 1960, 140)

POTAPOV, M.I.; POSTNOV, A.V., inzh.

Results obtained from the adoption of the De-Smet extraction unit.  
Masl.-zhir.prom. 25 no.12:26-29 '59. (MIRA 13:4)

1. Rostovskiy-na-Donu maslozhirovoy kombinat "Rabochiy".  
(Rostov-on-Don--Oil industries--Equipment and supplies)  
(Extraction (Chemistry))

POTAPOV, M.I. (Moskva)

"Antibodies" of plant origin and some research problems.

Usp. sovr. biol. 55 no.2:191-203 '63. (MIRA 17:8)

REIN, N.Ya., kand. tekh. nauk; POTAPOV, M.I., inzh.

Effectiveness of breaking the hard-to-blast overburden rock  
in strip coal mines using the method of inclined drilled-dweller  
boreholes. Vzryv. delo no. 57/17-220-225 '65. (MIRA 12.11)

1. Kemerovskiy gosyuzhinstat



Name: POTAPOV, M. K.

Dissertation: Some problems in the best approximation in  $L_p$  metrics

Degree: Cand Phys-Math Sci

Affiliation: Moscow State U imeni M. V. Lomonosov

Defense Date, Place: 1956, Moscow

Source: Knizhnaya Letopis', No 1, 1957

POTAPOV, M.K.

On Jackson-type theorems in the metric. Dokl. AN SSSR no.6:1185-  
1188 D '56. (MLRA 10:3)

1. Ivanovskiy gosudarstvennyy pedagogicheskiy institut. Predstavleno  
akademikom A.N. Kolmogorovym.  
(Polynomials) (Functional analysis)

ПОТАПОВ, М. К.

Let  $f(x)$  be a function defined on the interval  $[a, b]$  and satisfying the condition

$$\left| \int_a^x f(t) dt - \int_a^x f(t) dt \right| \leq \epsilon \quad (0 \leq x \leq 1)$$

for each interval  $[a, b]$  such that  $x \in (a, b)$  implies  $x+h \in [a, b]$  and  $x-h \in [a, b]$ .

Then  $f(x)$  is a constant function. 1/1

SOV/52-2-4-4/7

AUTHORS: Smirnov, S. V. and ~~Potapov, M. E.~~ (Moscow)

TITLE: A nomogram for an Incomplete  $\Gamma$ -Function and Probability Function  $\chi^2$ . (Nomogramma dlya nepolnoy  $\Gamma$ -funktsii i funktsii veroyatnosti  $\chi^2$ .)

PERIODICAL: Teoriya Veroyatnostey i yeye Primeneniya, 1957, Vol.II, Nr.4, pp. 470-472. (USSR)

ABSTRACT: A nomogram is constructed of the function

$P(\chi^2, n) = 1 - \Gamma(m, y)$ , where  $\Gamma(m, y)$  is the incomplete  $\Gamma$ -function,  $n=2m$ ,  $\chi^2=2y$ . For  $n > 30$  the function  $\bar{P}$  is introduced, which is obtained from  $P$  by means of the transformation

$$t = \sqrt{2\chi^2} - \sqrt{2n}, \quad x = \sqrt{\frac{2}{n}}, \quad \text{while for } 1 \leq n \leq 30$$

the function  $P$  itself is considered. The nomogram is valid for the following values of  $n$ ,  $t$ ,  $\chi^2$  and  $P$ :

Card 1/2  $1 \leq n \leq \infty$ ;  $|t| \leq 3.1$ ;  $1 \leq \chi^2 \leq 30$ ;  $0.001 \leq P \leq 0.999$ .

SOV/52-2-4-4/7

A nomogram for an Incomplete  $\Gamma$ -Function and Probability Function  $\chi^2$ .

The absolute error in the entire nomogram for  $0.01 \leq P \leq 0.99$  is found not to exceed 0.005. There are 2 tables and 7 references, of which 6 are Soviet and 1 English.

SUBMITTED: June 21, 1957.

1. Gamma functions--Nomographs    2. Nomographs--Errors

Card 2/2

POTAPOV, M.K.

SUBJECT USSR/MATHEMATICS/Theory of functions CARD 1/2 PG - 855  
 AUTHOR POTAPOV M.K.  
 TITLE Insertion theorems for analytic functions of many variables.  
 PERIODICAL Doklady Akad.Nauk 112, 591-594 (1957)  
 reviewed 6/1957

Let a real, in every argument  $2\pi$ -periodic function  $f(x_1, \dots, x_n)$  belong to the class  $B_{px_k}^{(\delta_k)} H_{(r)}^*(M)$  if the function  $f(x_1, \dots, x_k + iy_k, \dots, x_n)$  is analytic in the strip  $-\delta_k < y_k < \delta_k$  with respect to the variable  $x_k + iy_k$  for arbitrary fixed real values of the variables  $x_1, \dots, x_{k-1}, x_{k+1}, \dots, x_n$  and if there exists a limit value

$$\lim_{y_k \rightarrow \pm \delta_k} f(x_1, \dots, x_k + iy_k, \dots, x_n) = \varphi_k(x_1, \dots, x_k, \dots, x_n)$$

such that  $\varphi_k(x_1, \dots, x_n)$  considered as a function of  $x_k$  belongs to Nikol'ski's class  $H_{px_k}^{(r)}(M)$  (definition of  $H_{px_k}^{(r)}(M)$  compare Nikol'ski, Doklady Akad.Nauk 76, 6, (1951)). If

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16.6500

S/055/59/000/05/015/020

AUTHORS: Smirnov, S. V., Potapov, M. K.

TITLE: On the Best Construction of the Curvilinear Scale of the Approximation Diagram of Cauchy

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1959, No. 5, pp. 165-170

TEXT: The authors describe a method, based on the methods of approximation theory, for the construction of the third (curvilinear) scale of a nomogram for

(1)  $z = \varphi(x, y)$

with two given scales. The method has already been applied by the authors in (Ref.5).

M. V. Pentkovskiy and S. N. Bernshteyn are mentioned in the paper. There are 5 Soviet references.

SUBMITTED, July 9, 1958

Card 1/1

84739

S/055/60/000/004/006/007XX  
C111/C222

16.4100

AUTHOR: Potapov, M.K.

TITLE: On the Approximation of Non-Periodic Functions by Algebraic Polynomials

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya I matematika, mekhanika, 1960, No.4, pp.14-25

TEXT: Let  $f(x) \in H_p^{(r)} A_p^{(\alpha)}[-1,1]$ ,  $(0 \leq \beta \leq 1, 0 < \alpha \leq 1, r=0,1,2,\dots, 1 \leq p < \infty)$  if  $f(x)$  has an  $r$ -th derivative  $f^{(r)}(x)$  integrable in  $p$ -th power on  $[-1,1]$ , where for every  $h$ ,  $|h| \leq 1$  and  $0 < \alpha < 1$  it holds:

$$(2) \quad \left\| \frac{f^{(r)}(x\sqrt{1-h^2-h\sqrt{1-x^2}}) - f^{(r)}(x)}{(\sqrt{1-x^2}+|h|)^\beta} \right\|_{L_p[-1,1]} \leq |h|^\alpha;$$

while for  $\alpha=1$  it holds

$$(3) \quad \left\| \frac{f^{(r)}(x\sqrt{1-h^2-h\sqrt{1-x^2}}) - 2f^{(r)}(x) + f^{(r)}(x\sqrt{1-h^2+h\sqrt{1-x^2}})}{(\sqrt{1-x^2}+|h|)^\beta} \right\|_{L_p[-1,1]} \leq |h|.$$

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On the Approximation of Non-Periodic Functions by Algebraic Polynomials

Here  $\|f\|_{L_p[-1,1]} = \left( \int_{-1}^1 |f(x)|^p dx \right)^{1/p}$ .

In a similar way the author defines  $f(x) \in \bar{H}_p^{(r)} \bar{A}_p^{(\omega)}[-1,1]$ . In this case  $f^{(r)}(x)$  shall be integrable on  $[-1,1]$  in  $p$ -th power with the weight

$(1-x^2)^{-1/2}$  and in (2), (3) it must be put  $\|f\|_{L_p[-1,1]} = \left( \int_{-1}^1 |f(x)|^p \frac{dx}{\sqrt{1-x^2}} \right)^{1/p}$ .

Theorem 1 contains a well-known summary of the results of S.M.Nikol'skiy (Ref.1), A.F.Timan (Ref.2) and V.K.Dzyadyk (Ref.3).

Theorem 2: In order that  $f(x) \in \bar{H}_p^{(r)} \bar{A}_p^{(\omega)}[-1,1]$  is valid, it is necessary and sufficient that to every  $n \geq r+2$  there exists an algebraic polynomial  $P_n(x)$  so that

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S/055/60/000/004/006/007XX  
C111/C222

On the Approximation of Non-Periodic Functions by Algebraic Polynomials

$$(6) \quad \left\| \frac{f(x) - P_n(x)}{(\sqrt{1-x^2} + \frac{1}{n})^{r+\beta}} \right\|_{L_p[-1,1]} \leq \frac{C}{n^{r+\alpha}}.$$

Theorem 3: In order that  $f(x) \in \tilde{H}_p^{(r)} \tilde{A}_p^{(\alpha)}[-1,1]$  is valid, it is necessary and sufficient that to every  $n \geq r+2$  there exists a  $P_n(x)$  so that

$$(7) \quad \left\| \frac{f(x) - P_n(x)}{(\sqrt{1-x^2} + \frac{1}{n})^{r+\beta}} \right\|_{L_p[-1,1]} \leq \frac{C}{n^{r+\alpha}},$$

where  $\|f\|_{L_p[-1,1]} = \left( \int_{-1}^1 |f(x)|^p \frac{dx}{\sqrt{1-x^2}} \right)^{1/p}.$

Theorems 2 and 3 are conclusions of the theorems 4-7.

Theorem 4: If  $f(x) \in \tilde{H}_p^{(r)} \tilde{A}_p^{(\alpha)}[-1,1]$ , then for every  $n \geq r+2$  there exists a  $P_n(x)$  satisfying (7).

Card 3/4

POTAPOV, M.K.

Some inequalities for polynomials and their derivatives.  
Vest.Mosk.un.Ser. 1: Mat., mekh. 15 no.2:10-20 Mr-Apr '60.  
(MIRA 13:8)

1. Kafedra vysshey geometrii i topologii Moskovskogo  
universiteta.  
(Polynomials) (Inequalities(Mathematics))

POTAPOV, M.K.

Approximation of nonperiodic functions by algebraic polynomials.  
Vest. Mosk. un. Ser.1: Mat., mekh. 15 no.4:14-25 J1-Ag '60.  
(MIRA 13:9)

1.Kafedra vyshey geometrii i topologii Moskovskogo universiteta.  
(Functions)

POTAPOV, M.K.

Fourier coefficients of functions of bounded variation. Vest.  
Mosk. un. Ser. 1: Mat., mekh. 21 no.1:12-20 Ja-F '66.

(MIRA 19:1)

1. Kafedra vysshey geometrii i topologii Moskovskogo gosudarst-  
vennogo universiteta. Submitted March 6, 1964.

POTAPOV, M.K. (Moskva)

Equivalence of the conditions for convergence of Fourier series.  
Mat. sbor. 68 no.1:111-127 S '65. (MIRA 18:9)

S/055/60/000/02/03/009

AUTHOR: Potapov, M.K.

TITLE: Some Inequalities for Polynomials and Their Derivatives

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya I, matematika, mekhanika, 1960, No. 2, pp. 10-20

TEXT: Several well-known inequations of N.K. Bari (Ref.2,3), S.M.Nikol'skiy (Ref.4), S.N.Bernshteyn - Zygmund (Ref.5,6) and others are generalized for trigonometric polynomials  $T_n$ , e.g.

Lemma 2: Let  $\mu > -1$ ,  $\alpha + \beta \geq 0$ ,  $1 \leq p \leq \infty$ ,  $\beta$  - arbitrary. Then

$$(3) \int_{-\pi}^{\pi} |T_n(t)|^p \left( |\sin t| + \frac{1}{n} \right)^{\beta} |\sin t|^{\mu} dt \leq C n^{\alpha + \beta} \int_{-\pi}^{\pi} |T_n(t)|^p |\sin t|^{\alpha + \mu} \left( |\sin t| + \frac{1}{n} \right)^{\beta} dt,$$

where  $C = C(\beta, \alpha, \mu, p)$  does not depend on  $n$ .

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Card 1/2

POTAPOV, M.K.

Fourier coefficients of periodic functions belonging to S.M.  
Nikol'skii's H-classes. Dokl. AN SSSR 141 no.3:564-567 N '61.  
(MIRA 14:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.  
Predstavleno akademikom A.N. Kolmogorovym.  
(Functions, Periodic)



SMIRNOV, S.V.; POTAPOV, M.K. (Moscow)

Nomogram for probability functions  $\chi^2$ . Teor. veroiat. i ee prim. 6  
no.1:138-140 '61. (MIRA 14:6)

(Functions)  
(Probabilities)

SMIRNOV, S.V.; POTAPOV, M.K.

Best construction of a curvilinear scale for the Cauchy approximate  
nomogram. Vest.Mosk.un.Ser.mat., mekh., astron., fiz., khim. 14  
no.5:165-170 '59. (MIRA 13:8)  
(Nomography (Mathematics))

L 00640-67 EWT(m)/T DS

ACC NR: AP6005321

SOURCE CODE: UR/0413/66/000/001/0056/0056

AUTHORS: Potapov, M. M.; Senchin, N. A.

45  
B

ORG: none

TITLE: A controlled vacuum discharge. Class 21, No. 177526

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 56

TOPIC TAGS: electric discharge, discharge chamber, spark gap, spark ignition, vacuum arc

ABSTRACT: This Author Certificate presents a controlled vacuum discharge. The design reduces the erosion of the electrodes with multiple passage through the discharge of large pulse currents and reduces the inductance of the discharge. The discharge is made in the form of several discharge vacuum gaps, connected in parallel and arranged in a single hermetically sealed housing. The gaps are triggered by a single ignition device, and the discharges are generated by a common low potential electrode for all the gaps and by several (based on the number of gaps) high potential electrodes positioned opposite to the low potential electrode. The number of the latter electrodes corresponds to the number of gaps. The high potential electrodes are fastened to a stand-off insulator parallel to the low potential electrode.

SUB CODE: 21/ SUBM DATE: 25Apr64

Card 1/1 <sup>fv</sup>

UDC: 621.313.17

POTANOV, M.P.

Improvement of the design of an electrode with a platinum  
contact. Zav. lab. 30 no.5:635 '84. (K225 10-5,

1. Khimiko-metallurgicheskly institut Sibirskogo otdeleniya  
AN SSSR.

POTAPOV, Mikhail Vasil'yevich; SLAVNITSKAYA, N.N., red.; AZOVKIN,  
N.G., tekhn. red.

[Every second worker should be an innovator] Kazhdyi vtoroi -  
ratsionalizator. Riazan', Riazanskoe knizhnoe izd-vo, 1961.  
30 p. (MIRA 16:8)

1. Glavnyy inzhener zavoda "Ryaztsvetmet" (for Potapov).  
(Ryazan--Nonferrous metal industries)

YEVDOKIMOVA, A.K.; POTAPOV, M.V.; SHAKHNAZAROV, A.K.

Introducing a new method for the production of zinc oxide  
for needs of the paint and varnish and allied industries.

TSvet. met. 35 no.4:41-46 Ap '62.

(MIRA 15:4)

(Zinc oxide)

POTAPOV, M.Ya.

On publishing an exchange-of-experience card index. Avt.dor.18  
no.1:30 Ja-F '55. (MIRA 8:4)  
(Roads-Maintenance and repair) (Road machinery)

ПОТАПОВ, М.Я., инженер.

Changes in the forms and method of presenting invention documents. Avt. dor. 19 no.6:32-3 of cover Je '56. (MLRA 9:9)

(Inventions)



POTAFOV, N. ; MAROTT, M.

POTAFOV, N. ; MAROTT, M. Comparative investigation of the necrosis of the root and stem tips in the bean sprout. In German. p. 365

Vol. 2, No. 3/4, 1956

ACTA BOTANICA

SCIENTIAE

Budapest, Hungary

So: East European Accession, Vol. 6, No. 2, Feb. 1957

POTAPOV, N., inzh.

What a river tanker should be. Rech. transp. 19 no. 3:14-17 Mr :60.  
(MIRA 14:5)

(Tank vessels)

POTAPOV, N., inzh.

Group seminars. Prof., tekhn. obr. 19 no. 4:25-26 4p '62.  
(MIRA 15:4)

1. Glavnoye upravleniye professional'no-tekhnicheskogo  
obrazovaniya pri Sovete Ministrov RSFSR.  
(School supervision)

POTAPOV, N., inzh.

Letter to the editor. Rech. transp. 20 no. 3:3 of cover Mr '61.  
(MIRA 14:5)

(Tugboats)

PETROV, A.; POTAPOV, N.

Let's create exemplary school workshops. Prof.-tekhn. obr. 19  
no.10:15-16 0 '62. (MIRA 15:11)  
(Vocational education) (Workshops—Equipment and supplies)

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SOV/107-59-6-6/50

6(4)

AUTHOR: Potapov, N., Engineer

TITLE: The Radio Receiver "Rodina-59"

PERIODICAL: Radio, 1959, Nr 6, p 5 (USSR)

ABSTRACT: At the Voronezhskiy radiozavod (Voronezh Radio Plant) the class II superheterodyne "Rodina-59" was developed. This receiver was designed especially for rural areas and will work on 1.2, 6 and 60 volt batteries, or on power mains of 127 or 220 volts. For changing from one power source to another, the feed unit in the receiver must be changed. The receiver works on short, medium and long waves. The LF amplifier may be used for reproducing records. A keyboard-type switch is used for switching wave ranges. The tone resonance may be controlled separately for the high and lower frequencies. A 1GD-6 loudspeaker is used. The first stage (converter and heterodyne) is equipped with a P-29 battery triode-

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AUTHOR: Potapov, N. SOV/27-59-1-17/31

TITLE: From the Experiences of 11-Year Schools (Iz opyta odinnadtsatiletnikh shkol)

PERIODICAL: Professional'no-tekhnicheskoye obrazovaniye. 1959, Nr 1. p 25 (USSR)

ABSTRACT: The author first mentions a new USSR school law on linking conventional school education with practical work and industrial training. In order to gather some experience in this field, the USSR authorities set up such combined theoretical and practical classes at some schools, and then established 50 experimental schools with additional industrial training. Based on these experiences, 11-year schools are now being organized in USSR. This plan, however, is connected with difficulties arising from the fact that the second main subject "industrial training" is taught by various professional groups. Thus the Moscow Nr 475 school, for example, had 65 students trained in 15 different trades and the Novosibirsk Nr 99 school had 44 students taught in 11 various professions. The theoretical instruction at these and many other schools was

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SOV/27-59-1-17/31

• From the Experience of 11-Year Schools

limited to a minimum, as there were inadequate school rooms for the respective trade groups. Finally, there were no school-workshops, neither at the schools nor at the plants. The managers of the plant "Teplopribor" in the Chelyabinsk oblast, and the head of the training section of the Sinarskiy trubnyy zavod (Sinarskiy Pipe Plant) in the Sverdlovsk oblast also commented on the present difficulties of training school students at their plants.

Card 2/2



POTAPOV, N.

From the experience of the eleven-year schools. Prof.-tekh.  
obr. 16 no.1:25 Ja '59. (MIRA 12:2)  
(Vocational education)

86428

S/181/60/002/011/012/042  
B006/B056

24.2200 (1144,1138,1162)

AUTHORS: Potapkov, N. A. and Tyablikov, S. V.

TITLE: Theory of the s-d Model

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 11, pp. 2733-2742

TEXT: In the theory of ferromagnetic metals, taking account of the effect of the interaction between conduction electrons (s-electrons) and d-electrons, which are responsible for the magnetic properties, upon the material characteristics is of interest. The authors deal with this problem from the point of view of the s-d model by S. V. Vonsovskiy (Refs. 1, 2). The effect of this interaction upon the magnetization, electrical conductivity, resonance, etc. has been investigated by Vonsovskiy et al. A number of these results are subjected to a renewed theoretical investigation, and several formulas are derived, which hold within a wide temperature interval; for this purpose the authors use the two time temperature (advanced and retarded) Green functions. Among other things, energy spectrum and magnetization are calculated in third approximation with respect to the coupling constant. It is shown that s-d interaction causes a gap in the

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Theory of the s-d Model

S/181/60/002/011/012/042  
B006/B056

spectrum of the elementary excitations of the spin-wave type. Due to this interaction, the spin-induced degeneracy of s-electrons is partly reduced, and the s-electrons are magnetized. The entire magnetization of the system is composed of the magnetization of s-electrons and that of d-electrons. Formulas are also given for the entire magnetization (spontaneous magnetization), taking s-d interaction into account. These formulas correspond to those obtained by Vonsovskiy et al. and have been published in an implicit form in Ref. 11. There are 11 Soviet references.

ASSOCIATION: Magnitnaya laboratoriya AN SSSR (Magnetic Laboratory AS USSR). Matematicheskii institut im. V. A. Steklova AN SSSR (Institute of Mathematics imeni V. A. Steklov AS USSR)

SUBMITTED: June 3, 1960

Card 2/2

POTAPOV, N. . inzh.

New pusher boat construction. Rech. transp. 19 no.11:3 of cover  
H '60. (MIRA 13:11)

(Germany, West--Tugboats)

POTAPOV, N.; MARCTI, M.

POTAPOV, N.; MARCTI, M. Synthesis of nucleic phosphoric acid in the root and stem of the bean sprout. In German. p. 377

Vol. 2, No. 3/4, 1956

ACTA BOT NICA

SCIENCE

Budapest, Hungary

So: East European Accession, Vol. 6, No. 2, Feb. 1957

POTAPOV, N., inzhener.

Selecting a coupling system for pusher tugs on waterways. Rech.  
transp. 14 [i.e. 15] no.3:17-19 Mr '56. (MLRA 9:8)  
(Towing) (Tugboats)

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<p>Be</p> <p>Diurnal periodicity of mineral nutrition [in plants]. N. POTAPOV and N. J. STANKOV (Compt. rend. Acad. Sci. U.R.S.S., 1934, 2, 40-45).—Absorption of <math>\text{NO}_3^-</math> and <math>\text{PO}_4^{3-}</math> by Indian corn (horse's tooth), kept without the sp. salt for 2 days prior to the test, in <math>\text{H}_2\text{O}</math> culture, increases rapidly after sunset and reaches a max. at night at a period coincident with that of greatest respiration intensity (by determination of <math>\text{H}_2\text{CO}_3</math> in the medium), and decreases considerably during the day. The respiratory energy of the root cells is the main factor in the absorption of electrolytes. J. W. B.</p>																			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
FROM SYNDICATE										FROM BOWLING									
SYNDICATE										BOWLING									
SYNDICATE										BOWLING									

Entry into, and transference of nutritive substances in plants. N. G. Potapov. *Proc. Conf. Soil Sci., Novosibirsk, 2, 344-5 (1957)*. Absorption of N and P from the soil proceeds periodically, at a rate inversely proportional to the rate of elimination of the assimilation products from the root system. B. C. P. A.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



1. RUBIN, B. A., POTAPOV, N.G., GERMANOVA, V.F.

2. USSR (600)

4. Grafting

7. Interaction of components of inter-family grafts, Dokl. AN SSSR 88  
No. 6, 1953

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

Потаров, Н. С.

Root bleeding and nitrogen metabolism - N. G. Potarov  
and E. G. Potarov. *Tr. Vsesoyuzn. nauch. konf. po  
biokh. i fiziolog. tsytr. 1964, 10, 1, 10-12.*

2

POTAPOV, N. G.

The forms of phosphorus in the bleeding sap of culture  
plants. N. G. Potapov and Hidiko Molnár-Keresztes  
Loránd-Archiv 1960. Budapest: Acta Botan. Acad.  
Sci. Hung. 2, 1960. 1960. German. See C.A. 50,  
15747g. Mark Pungalan

2

POTAPOV, N. G.

✓Compounds of sulfur and pyridoxine in corn juice. N. G. Potapov and D. Feler. *Vestnik Moskov. Univ.* 10, No. 12, Ser. Fiz. Mat. i Estestven. Nauk No. 8, 127-31(1955).—The plant juice flowing from the roots to the upper parts of corn plant was examd. in early, flowering, and ripening phases of the plant. Chromatographic estn. of thiamine and pyridoxine, as well as glutathione, methionine, and cysteine was made. It was shown that the concept of the roots passing upward only the sulfate form of S is erroneous. In all phases of growth the juice contained glutathione and methionine; thiamine was found only in the early phase, while pyridoxine appeared in all phases.

G. M. Kosolapoff

Chair Plant Physiol. M. G. U.

Chair Plant Physiol. Budapest Univ.

Potapov, N. G.

Mineral nutrition of wheat grown under field conditions. N. G. Potapov (*Dokl. Akad. Nauk SSSR*, 1955, 105, 529-532). —The nitrate-N content of the sap of wheat grown in various soils and climatic conditions varied from 0 to 317 mg./l. without addition of NPK fertilisers, and from 0 to 562 mg./l. with them. Phosphorus compounds were represented exclusively by phosphates, the  $PO_4^{3-}$  content varying from 51 to 213 mg./l. for different localities, growth stages, and manuring conditions. Probably the root system can, under conditions of low environmental N- and P-supply, convert all the absorbed inorg. N into nitrogenous org. products, but that when excess of inorg. N is available  $NO_3^-$  and  $PO_4^{3-}$  are supplied unchanged to the leaves and flowers.  
R. Truscov.

*Plant Physiology*  
RUBIN, Boris Anisimovich, professor; OPARIN, A.I., akademik, redaktor;  
POTAPOV, H.G., redaktor; IMSHENNIK, I., tekhnicheskii redaktor

[Plant physiology] Fiziologiya rastenii. Pod red. A.I. Oparina.  
Moskva, Gos. izd-vo "Sovetskaya nauka" Pt. 2. 1956.  
287 p. (MLRA 10:4)

(Botany--Physiology)

ANDREYENKO, S.S.; POTAPOV, N.G.; KOSULINA, L.G.

Effect of the bleeding sap of corn grown in various pH media  
on the callus growth in carrots. Dokl. AN SSSR 155 no. 4:  
964-966 Ap '64. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
Predstavleno akademikom A.N.Belozerskim.

POTATOV, M. G.

"The Root as the Organ of Synthesis of Complex Organic Substances,"  
Lomonsov Lectures in 1956, Vest. Mosk. U., Physico Math and Natural Sciences  
Series, 4, No. 6, pp 147-160, 1956 Biological Soil Faculty

Translation U-3,054, 363



Potapov, N.G.

Agri

The mineral nutrition of maize from sand soil improved by deep fertilizing. N. G. Potapov, Zsigmond Nagy, and Barna Gujdi (Eötvös Loránd Tudományegyetem Növény-életani Intézet, Budapest). *Agrokémia és Talajtan* 5, 6-16(1960).—On the basis of the bleeding-sap analysis it was found that the fertilizer assures a sufficient supply of nutrition only in the beginning of the growth period. Later, because of drying out of the sand, the physioli. activity decreases in the root system which is in the upper layer, and in the time when the reproductive organs are formed the plant has a shortage of water and nutrition. In the case of deep fertilizing the plant has a higher content of bleeding sap and also the N, P, and K content of the sap is higher later when the roots are deep enough. Neila Hellinger

3/

POTAPOV, N. G.

Med  
 Root bleeding and nitrogen metabolism. N. G. Potapov  
 and Edit Csah (Rötvös Lóránd Tudományegyetem Növény-  
 élettani Intézet, Budapest). *Agrokémia és Talajtan* 5,  
 17-20 (1950).—Bleeding time and intensity is different from  
 one plant species to the next. The quantity of bleeding sap  
 varies depending on the age of the plant. In the vegeta-  
 tive and generative phase of squash and maize the concn. of  
 org. and inorg. N varies considerably in the first 12 hrs. of  
 bleeding. The concn. of inorg. N decreases and org. N in-  
 creases. It was observed that in maize bleeding for 10  
 days, the N concn. was higher in the sap which was ob-  
 tained during the night than in the sap which was obtained  
 during the day. Also the nitrate concn. is periodical. The  
 N concn. in the bleeding sap during the vegetative phase was  
 about 7%. In blossom time the concn. reaches 40% during  
 the night. At the same time the org. N does not increase  
 correspondingly. Nella Hellinger

2

Potapov, N. G.

✓ The forms of phosphorus in the bleeding sap of culture plants. N. G. Potapov and Ildikó Molnár Keresztes (Eötvös Loránd Tudományegyetem Növényélettani Intézet, Budapest). *Agrokémia és Talajtan* 5, 27-33 (1956).— Squash and maize were used. The concn. of inorg. P during the vegetative period was almost const., while the org. P concn. during the same period varied considerably. In the sap of maize obtained during the vegetative period and bled the first 12 hrs., 91% of the P was inorg. and 9% was org., the latter present in acid-labile form. With the aging of the root the P concn. decreased. N. Hellinger

2

POTAPOV, N. G.

Met  
✓ The role of sulfur in the life of plants. I. Present situation in the investigation of sulfur metabolism in plants. N. G. Potapov and Donokos Felér (Eötvös Loránd Tudományegyetem Növényélettani Intézet, Budapest). *Agrókémia és Talajtan* 5, 37-40 (1958).—A review with 48 references. II. The occurrence of methionine and glutathione in the bleeding sap of maize. *Ibid.* 47-52.—From the sap which was collected in the vegetative, generative, and ripening period, the S-content, substances were sepd. by means of the Miller and Rockland method (*C.A.* 47, 13956) with mercury nitrate. The mixt. was sepd. by paper chromatography, and the spots were identified as methionine and glutathione. Cysteine was not found in the sap. Evidence of the synthesizing activity of the root was obtained. III. Fluorescent substances in the bleeding sap of maize. *Ibid.* 53-6.—Paper chromatography was used to det. and to sep. the fluorescent substances in the sap of maize. Schleicher & Schül 2043A paper was used. The solvent used was AcOH:BuOH:water in ratio 10:40:50. A bluish green fluorescent spot of irregular shape appears immediately below the front line. One of the ingredients of the spot yielded a blue color in a slightly alk. medium with 2,6-dichlorobenzoquinone monochlorimide, but did not show up in the presence of borate buffer. The substance has a max. at 324-326 mμ, and the authors infer the presence of one of the deriva. of vitamin B<sub>6</sub>. Another series of chromatograms was oxidized in an alk. medium with K<sub>2</sub>Fe(CN)<sub>6</sub>, whereupon in the bleeding sap of maize in the vegetative phase, a blue fluorescent spot appeared identifiable as thiochrome. Another fluorescent spot appearing below the front line was not identified; it is probably a coumarin deriv. Nella Hollinger

Potapov, N. G.

✓ Synthesis of nucleic acid phosphorus in the root and shoot of bean seedling. N. G. Potapov and Mihály Maróti (Eötvös Loránd Tudományegyetem Növényélettani Intézet, Budapest). *Agrokémia és Talajtan* 5, 67-68(1956).  
 The data on P metabolism are completed by measuring the changes in length and dry matter content of the individual organs. *Phaseolus vulgaris* was used. Seeds sterilized in a 1% Br soln. were left to germinate for 2, 4, and 6 days. In one sample of the germinated seedlings the individual organs were analyzed whereas from the rest root and shoot excisions were made and analyzed after incubation for 6 days. For nucleic acid-P detn. the method of Taylor and Miller as modified by Roth, and Lavib-Harrington-Buckaloo was used. The isolated root, just as that of the intact plant, grows more vigorously in length than does the young shoot. Dry matter increases in the shoot more rapidly than in the root. Total P as well as nucleic acid P per organ is higher in the root. The nucleic acid-dry matter ratio is higher in the shoot of the intact plant, whereas in isolated organs the reverse is true. The evidence supports the hypothesis that, contrary to the root, the isolated shoot cannot synthesize nucleic acid P in the quantity to supply its own requirements. In intact plants migration from the roots probably provides the shoot with the required supply of nucleic acid P. N. Hellinger

Med 21

POTAPOV, N. G.

2/

The synthesis of nucleosphosphoric acid in the root and sprout of bean seed. N. G. Potapov and M. Maróti (Pflanzenphysiol. Inst. Loránd Eötvös Univ., Budapest). *Acta Botan. Acad. Sci. Hung.* 11, 377-90 (1956) (in German). — Bean (*Phaseolus vulgaris*) seeds were disinfected in 1% Br water and germinated in 1% agar-agar contg. minerals, Med sucrose, and yeast ext. for 2, 4, and 6 days. From approx. half the germinated plants the roots and sprouts were excised and grown for 6 days on a sterile, sugar-vitamin mixt. at 27-30° in natural light. Measurements and analyses were made on roots and sprouts from the 0 groups at the beginning and the end of the exptl. period. The roots of the intact plants showed a 30-fold increase in length (I) for the 6-day period, an increase (94.6-298.9  $\gamma$ ) of total P (II) per root in the 4-6 day period, and a 10-fold (7.9-93.6  $\gamma$ ) increase per root of nucleoprotein P (III) in the 2-6 day period. Results from the other groups were: for the sprouts of intact plants, a 2-fold increase in I, no change in II, and a 3-fold increase (2.3-7.7  $\gamma$ ) in III; for the excised roots, a 10-fold increase in I, an increase (223.3-377.1  $\gamma$ ) in II, and a 10-fold increase (11.2-121.5  $\gamma$ ) in III; for the excised sprouts, a 2-fold increase in I, and no change in II and III. At the end of the 6-day period the intact roots contained 7-15% dry wt., the intact sprouts, 17-25%, the excised roots and sprouts, 8-14%. The failure of the isolated sprout to synthesize nucleic acid P confirms evidence that the root of the young beanling is autotrophic and the sprout heterotrophic.

L. N. Ellis

POTAPOV, N.G.; SALAMATOVA, T.S.

Effect of some inhibitors on the respiration of root growth  
zones in lupine. Fiziol. rast. 11 no.5:761-768 S-O '64.  
(MIRA 17:10)

1. Biology Department of Moscow State University and Biological  
Institute of Siberian Section of U.S.S.R. Academy of Sciences,  
Irkutsk.

POTAPOV, N.G.; SALAMATOVA, T.S.; DROBYSHEVA, N.I.

Some properties of mitochondria of cells in the growing zones  
of lupine roots. Nauch. dokl. vys. shkoly; biol. nauki no.4:  
121-127 '64. (MIRA 17:12)

1. Rekomendovana kafedroy fiziologii rasteniy Moskovskogo  
gosudarstvennogo universiteta im. M.V. Lomonosova.



POTAPOV, N.G.; SALAMATOVA, T.S.

Effect of aeration conditions on the oxidation properties of  
cells and cell fractions in the growing zones of lupine roots.  
Vest. Mosk. un. Ser. 6: Biol., pochv. 20 no.1:33-41 Ja-F '65.  
(MIRA 18:3).

1. Kafedra fiziologii rasteniy Moskovskogo universiteta.

POKHAROV N.I., SALAMANOVA, T.S.

Respiration of mitochondria in the presence of a ligand  
root. Dokl. AN SSSR 159 no.1211-212, 1954.

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova  
Predstavleno akademikom A.N. Selitskiy.

ZHURBITSKIY, Z.I., otv. red.; GENKEL', P.A., red.; GUNAR, I.I., red.;  
POTAPOV, N.G., red.; POTEKHINA, N.A., red.

[Role of mineral elements in the metabolism and productivity  
of plants] Rol' mineral'nykh elementov v obmene veshchestv i  
produktivnosti rastenii. Moskva, Izd-vo "Nauka," 1964. 358 p.  
(MIRA 17:7)

1. Akademiya nauk SSSR. Institut fiziologii rastenii.

ZHURBITSKIY, Z.I., otv. red.; GENKEL', P.A., red.; GUNAR, I.I.,  
red.; POTAPOV, N.G., red.; KRASIL'NIKOVA, G.V., red. izd-va;  
GUS'KOVA, O.M., tekhn. red.

[Physiological basis for the plant nutrition system] Fizio-  
logicheskoe obosnovanie sistemy pitaniia rastenii. Moskva,  
Izd-vo "Nauka," 1964. 339 p. (MIRA 17:3)

1. Akademiya nauk SSSR. Institut fiziologii rasteniy.

POTAPOV, N.G.; SALAMATOVA, Tatjana S.

The amount of mitochondria in the cells of the growing zones  
of lupine root. Acta biol. acad. sci. Hung. 14 no.2:157-162  
'63.

1. Department of Plant Physiology, Lomonosov State University,  
Moscow.

(PLANTS) (MITOCHONDRIA)

POTAPOV, N.G.

Laws governing the translocation of substances in the root system.  
Izv. AN SSSR, Ser.biol.no.2:181-192 Mr-Apr'62. (MIRA 16:7)

1. Institute of plant Physiology, Academy of Sciences of the  
U.S.S.R., Moscow.  
(ROOTS (BOTANY)) (PLANTS---NUTRITION)

BASLAVSKAYA, Sarra Saulovna; BORODULINA, Frida Zakharovna; POTAPOV, Nikolay Gavrilovich; TIL'GOR, Nikolay Karlovich[deceased]; TRUBETSKOVA, Ol'ga ~~Mikhaylovna~~; SOKOLOVA, N.A., red.; LAZAREVA, L.V., ~~tekhn.~~ red.

[Brief laboratory manual on plant physiology] Malyi praktikum po fiziologii rastenii. Izd.4., perer. Moskva, Izd-vo Mosk. univ., 1961. 68 p. (MIRA 14:8)  
(Plant physiology—Laboratory manuals)

RUBIN, B.A.; POTAPOV, N.G.

"Physiology of irrigated wheat" by N.S. Petinov. Reviewed by  
B.A. Rubin, N.G. Potapov. Nauch. dokl. vys. shkoly; biol.  
nauki no. 1:221-223 '61. (MIRA 14:2)  
(WHEAT---IRRIGATION) (PETINOV, N.S.)



RUBIN, Boris Anisimovich, prof.; POTAPOV, N.G., red.; PARSADANOVA, K.G.,  
red.izd-va; TITOVA, L.L., tekhn.red.

[Lectures on plant physiology] Lektsii po fiziologii rastenii.  
Moskva, Gos.izd-vo "Vysshaia shkola," 1959. 221 p. (MIRA 13:4)

(Plant physiology)

POTAPOV, N. G.  
HUNGARY/Physiology of Plants. Mineral Nutrition.

I-4

Abs Jour: Ref. Zhur-Biologiya, No 1, 1958, 1173.

Author : Potapov, N.G., Fejer, Domokos.

Inst : not given

Title : The Role of Sulfur in the Life of Plants and the Present  
State of Research into the Sulfur Metabolism of Plants.

Orig Pub: Agrokem. es talaj., 1956, 5, No 1, 37-46.

Abstract: No abstract.

Card : 1/1

-8-

POTAPOV, N.I., inzh.; LEBEDEV, V.A., inzh.

Universal accelerator of steam turbine control systems. *Energetik*  
13 no.1:7-8 Ja '65. (MIRA 18:3)

POTAPOV, N.I., inzh.; LEBEDEV, V.A., inzh.; PEVMEV, G.V., inzh.

Automatic control of reserve oil supply for hydrogen  
seals of TV2-100-2 turbogenerators operating under in-  
creased hydrogen pressure. *Elek.sta.* 31 no.5:85-86  
My '60. (MIRA 13:8)  
(Turbogenerators) (Sealing(Technology))

YEVLAKOVA, V.F.; SERBINENKO, G.A.; POTAPOV, N.I.

Blood-sucking Diptera in the construction area of the future  
Kakhovka Reservoir and their control. Med. paraz. 25 no.1:42-48  
Ja-M '56 (MLRA 9:6)

1. Iz Ukrain'skogo nauchno-issledovatel'skogo instituta malyarii i  
meditsinskoy parazitologii imeni prof. I.Ya . Rubashkina (dir.  
instituta I.A. Demchenko) i Zaporozhskoy oblastnoy protivomalyariynoy  
stantsii (zav. stantsiyey Ya. M. Belyy)

(INSECTS

Diptera, blood-sucking types, fauna & control in  
reservoir construction region in Russia)

POTAPOV, N.M.

State Standardization Committee should be a coordinating center. Standartizatsiya 28 no.10:41-42 0 '64. (MIRA 17:12)

1. Zamestitel' predsedatelya Gosudarstvennogo komiteta avtotraktornogo i sel'skokhozyaystvennogo mashinostroyeniya.

L 8131-66 EWT(d)/EWT(m)/EWP(v)/I/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWI 1.1/

ACC NR: AP5024955 EWA(c) JD/HW/DJ

SOURCE CODE: UR/0286/65/000/016/0015/0016

AUTHORS: Antonov, A. V.; Tselikov, A. I.; Dmitriyev, L. D.; Potapov, N. H.

ORG: none

TITLE: Machine for rolling of finned sheets on a press. Class 7, No. 173690  
announced by All-Union Scientific Research and Construction Institute of Metallur-  
gical Machine Construction (Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-  
konstruktorskiy institut metallurgicheskogo mashinostroyeniya)

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 15-16

TOPIC TAGS: metal rolling, metal working, metal sheet

ABSTRACT: This Author Certificate presents a machine for rolling of finned sheets on a press, including an undriven roll and a hydraulically driven moving plate (see Fig. 1).

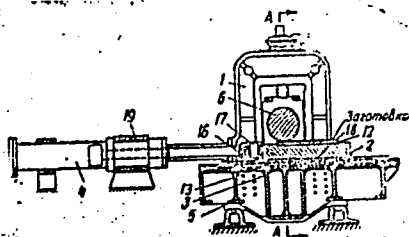


Fig. 1. [Abstractor's note: no nomenclature given]

Card 1/2

L 8131-66

ACC NR: AP5024955

To decrease the hydraulic force requirements, the plate is supported by a linear roller bearing and on the sides is guided by gear racks meshing with gears connected to the ends of one of the rollers of the roller bearing. A second version has provisions for rotating the roll during its heating prior to rolling.|| Orig. art. has: 1 figure.

SUB CODE: IE/ SUBM DATE: 29Jan63

nw  
Card 2/2



L 40740-65 ENT(1)/EPA(s)-2/ENT(m)/EAP(w)/EMA(d)/T/ENP(t)/EPA(bb)-2/ENP(b)  
P&d/PT-10 IJP(c) JD/EN/JG S/0020/65/160/003/0586/0589  
ACCESSION NR: AP5005888

AUTHORS: Potapov, N. N.; Rabin'kin, A. G.; Kurdyumov, G. V. (Academician) 47  
48

TITLE: Temperature dependence of the magnetic properties and the character of magnetization processes of the CoPt alloy B

SOURCE: AN SSSR. Doklady, v. 160, no. 3, 1965, 586-589

TOPIC TAGS: cobalt alloy; temperature dependence, magnetic property, magnetization, ordered alloy 21

ABSTRACT: In view of certain doubts concerning the nature of the high coercivity state of ordered alloys of the Co-Pt system, and in view of the limited published data on the temperature dependence of the magnetic properties of these alloys, the authors studied the isothermal magnetization and demagnetization curves and the temperature dependence of the saturation magnetization and of the coercive force

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L 40740-65

ACCESSION NR: AP5005888

of a cobalt alloy with 51 at.% platinum in the temperature range from 77K to the Curie point. The measurements were made on cylindrical samples 2.1 mm in diameter and 40--50 mm long, in three structural states: disordered (I), partially ordered (II), and fully ordered (III). The measurements were made by the ballistic throw method (at 77K) or by drawing the sample from a stationary measuring coil ( $T \geq 293K$ ). The results show that in the entire interval of temperatures the saturation magnetization of alloy II is higher than for that of III but lower than that of I. The Curie point of the alloy in state II likewise occupies an intermediate position between the values of the Curie point of alloys in states I and III. Although x-ray structural data indicate that state II corresponds structurally to a two-phase state, the present measurements indicate that this state behaves like a magnetically soft material. Other peculiarities in the temperature dependence of the properties of the alloy are discussed from the point of view of the present results, as well as results by others. Orig. art. has: 4 figures. This report was presented by G. V. Kurdyumov.

Card 2/3

L 40740-65

ACCESSION NR: AP5005888

3

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii im. I. P. Bardina (Central Scientific Research Institute for Ferrous Metallurgy); Institut khimicheskoy fiziki (filial) Akademii nauk SSSR (Institute of Chemical Physics (Branch), Academy of Sciences SSSR)

SUBMITTED: 10Jul64

ENCL: 00

SUB CODE: MM

NR REF SOV: 008

OTHER: 003

Magnetic Alloy

18

Card <sup>ho</sup> 3/3

POTAPOV, N.P.

USSR/Statistical Physics - Heat

D-4

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11443

Author : Potapov, N.P.

Inst :

Title : Thermistor Made of Manganese and Nickel Oxides.

Orig Pub : Tr. Odessk. gidrometerral. in-ta, 1956, vyp. 8, 45-46

Abstract : A small lump is made of a moistened mixture of powdered manganese and nickel oxides (69%  $MnO_2$  + 31%  $NiO$ ) and is attached to the ends of inclined tungsten wires. The lump is heated with an alcohol lamp to red incandescence, after which a voltage of 12 -- 30 volts is applied to the wire. The drop of the molten matter formed under the action of Joule heat, runs off the ends of the wires, forming a small bead after cooling. After a year of aging, the resistance of the bead becomes constant. The temperature coefficient of resistivity at 30° amounts to 3% per degree.

Card 1/1

POTAPOV, N.P.

Measuring the quality factor of resonance systems. Izv. tekhn.  
no.6:45-47 Ja. '63. (MIRA 16:8)

(Frequency measurements)

POTAPOV, N.P.; ZHELTOVA, G.P.

Temperature coefficients of quality factor measures. Izv. tekhn.  
no.1:52-55 Ja '64. (MIRA 17:11)

POTAPOV, N. P.

9(4)

P. 11

PHASE I BOOK EXPLOITATION

SOV/2773

Poluprovodnikovyye termosoprotivleniya; sbornik statey (Thermistors; Collection of Articles) Moscow, Gosenergoizdat, 1959. 229 p. 13,000 copies printed.

Ed. (Title page): B. S. Sotskov, Doctor of Technical Sciences, Professor; Ed. (Inside book): V. A. Petrov; Tech. Ed.: G. I. Matveyev; Editorial Board: B. S. Sotskov, Doctor of Technical Sciences, Professor (Chief Ed.), N. P. Udalo, Candidate of Technical Sciences, N. S. Zaytsev, Engineer, Ye. N. Skogorev, Engineer, and V. I. Turkulets, Engineer.

**PURPOSE:** This collection of articles is intended for engineering and technical personnel of plants, OKB, NII and also instructors and students of vuzes.

**COVERAGE:** The book contains articles dealing with problems of manufacture of thermistors and determining thermistor parameters and characteristics. The authors also discuss problems of industrial application of thermistors as control elements. The book is an effort of cooperation by scientists of a number of vuzes, members of NII and engineers of one of the plants (name is not given) of Mosgorsovnarkhoz. No personalities are mentioned. References appear at the end of some articles.

Card 1/12

Thermistors; Collection (Cont.)

SOV/2773

TABLE OF CONTENTS:

Foreword

SECTION I. MANUFACTURING TECHNOLOGY AND METHODS OF DETERMINING  
PARAMETERS AND CHARACTERISTICS OF THERMISTORS

7

Zaytzev, N. S. Semiconductor Devices in National Economy

7

The author presents a brief history of development of semiconductor devices in the USSR and discusses their importance in the national economy. There are no references.

Turkulets, V. I. Industrial Thermistors and Their Application

12

The author presents basic characteristics and parameters of industrial thermistors and discusses methods of measuring thermistor characteristics. He also discusses thermistor circuits and their application. There are no references.

Maksudov, F. M. Thermistors With Indirect Heating

33

The author presents basic characteristics and parameters of industrial thermistors with indirect heating and discusses thermistor

Card 2/12



Thermistors; Collection (Cont.)

SOV/2773

manufacturing technology. He also describes a method of determining thermistor characteristics and discusses factors affecting thermistor parameters. There is 1 Soviet reference.

Mamontova, A., and L. Mazina. Thermistors for Smoothing Starting Currents in Circuits With Barretters

52

The authors discuss a current stabilizer (barretter) operating together with a thermistor. The barretter and a thermistor are placed in a common envelope. They also discuss basic characteristics of the stabilizer and explain its advantages over other types of current stabilizers. There are no references.

Turkulets, V. I., and Z. V. Shleptsova. Effect of Chemical Impurities on Thermistor Characteristics

56

The authors discuss the effect of chemical impurities in compound elements on electrical characteristics of thermistors and present a number of resistance-temperature curves for various types of impurities. There are no references.

Udalov, N. P. Thermistor Specifications

62

Card 3/12

Thermistors; Collection (Cont.)

SOV/2773

The author discusses optimum parameters of thermistors with direct and indirect heating and presents methods of calculating temperature characteristics, constant B and power dissipation coefficient. He also discusses thermistor volt-ampere characteristics and presents methods of constructing a heating characteristic as well as methods of experimental determining of thermistor parameters. There are 4 references, all Soviet.

Nechayev, G. K. Problems of Design of Thermistors for Circuits Based on Relay Effect

72

The author discusses operating conditions of thermistors used in circuits based on relay effect and calculates thermistor parameters required in the design of thermistors. There are 3 references, all Soviet.

Andriyevskiy, A. I., and I. D. Tret'yak. Temperature Characteristics of Thermistors Made From Two-oxide Mixtures

82

The authors present experimental temperature characteristics of thermistors made from the following two-oxide mixtures: BeO-Cu<sub>2</sub>O; MgO-Cu<sub>2</sub>O; CaO-Cu<sub>2</sub>O; ZnO-Cu<sub>2</sub>O; MnO<sub>2</sub>-Cu<sub>2</sub>O; and NiO<sub>3</sub>-Cu<sub>2</sub>O. They describe

Card 4/12

Thermistors; Collection (Cont.)

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the importance of these mixtures in the design of new types of thermistors. There are 4 references, all Soviet (including 1 translation).

Frolikova, Ye. G. Thermistors for Controlling Heating of an Automobile Engine

95

The author discusses fundamentals of manufacture of laboratory types of thermistors used as thermosensitive elements in the automobile cooling system and presents thermistor characteristics. There are 2 references, both Soviet.

Oreshkin, P. T. Experimental High-temperature Thermistor

101

The author discusses the manufacture and operation of a laboratory-type thermistor used at temperatures 1,000 - 1,500°C and presents its basic characteristics. There are 9 references: 4 Soviet, 2 English and 3 German.

SECTION II. METHODS OF CALCULATING NETWORKS WITH THERMISTORS AND  
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Sotskov, B. S. Analytical Methods of Determining Operating Conditions for Thermistors Using Alternating Current

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Thermistors; Collection (Cont.)

30V/2773

The author discusses operating conditions of a-c thermistors with the time constant much larger than the period of alternating current used. He also presents a method of calculating thermistor-circuit parameters such as current values, function  $R=f(t)$  etc. There are no references.

Sotskov, B. S. Voltage Stabilizer Circuits With Thermistors 119  
The author presents fundamentals of voltage stabilizer circuits with thermistors and discusses methods of calculating circuit parameters. There is 1 Soviet reference.

Udalov, N. P. Transients in Simple Circuits With Thermistors 129  
The author presents a method of calculating dynamic characteristics of thermistors. The method can be used in the design of time relays utilizing lag in thermistor circuits. He also discusses transients in simple circuits with thermistors. There are 2 references, both Soviet.

Sorokin, M. F. Dynamic Parameters of Thermistors With Indirect Heating 140

Card 6/12

Thermistors; Collection (Cont.)

SOV/2773

The author discusses indirect-heated thermistors as elements of automatic control of transmission level in a long-distance communication line. He describes transfer function of a thermistor and determines dynamic parameters of an indirect-heated thermistor. There are 3 references: 1 Soviet and 2 English.

Kaganov, M. A. Calculation of Parameters of Measuring Bridge Circuits With Thermistors

151

The author discusses a method of calculating bridge circuits with thermistors used in temperature measuring devices. There are no references.

Nechayev, G. K. Some Advantages of Thermistor Heat Detector Cells in Circuits for Measuring Temperature

155

The author discusses the advantages of thermistor heat detector cells over wire resistance thermometers in devices for measuring temperature. He also describes a method of calculating parameters of a high-sensitivity measuring bridge. There are 4 references, all Soviet.

Afanas'yeva, N. S. Determination of a Coefficient of Thermal Inertia for Thermistors and Air Flow Rate Meter

162

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Thermistors; Collection (Cont.)

SOV/2773

The author discusses a method of determining the coefficient of thermal inertia for TSh-1 and T-8 types of thermistors under the condition of motion of the media. She also describes an air flow rate meter operating at various temperatures and densities. There are no references.

Udalov, N. P., V. I. Turkulets and M. A. Balashov. Low-inertia Thermistor Level Indicator

168

The authors discuss an experimental device for controlling and measuring the level of liquids and loose substances. There are no references.

Abrosimov, M. V. Thermistors for Superhigh Frequencies

173

The author discusses thermistors used in thermistor heads for measuring superhigh-frequency power and describes methods of eliminating the error of measurement, of decreasing amplitudes of higher harmonics and calibration errors, as well as methods of increasing electrical stability and the coefficient of heat transfer. There are 6 references, all Soviet.

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Thermistors; Collection (Cont.)

SOV/2773

- Smolyanskiy, N. A. Thermoregulator Using TOSM Type Thermistors 182  
 The author discusses circuits of automatic temperature regulators used in bread-baking industry and presents recommendations for regulator manufacture. There are no references.
- Kaganov, M. A. Use of Thermistors for compensating Thermocouple Error 184  
 The author discusses a method of compensating the error of temperature measurement due to temperature difference of thermocouple alloys. He also explains a method of calculating parameters of compensating circuits containing thermistors. There are 5 references, all Soviet.
- Nechayev, G. K., L. S. Panasyuk and M. M. Pinevich. UTS-1 Temperature Signalling Device 192  
 The authors discuss the construction of a temperature signalling device for controlling temperature of bearings of various units of power plants such as boilers, turbines, etc. He describes the principle of its operation and explains the construction of a thermistor heat detector cell. There are 3 references, all Soviet.
- Vorob'yev, L. K. Use of Thermistors for Controlling Temperature in Refrigerator Railroad Cars. 203

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Thermistors; Collection (Cont.)

SOV/2773

The author discusses the experience acquired in using MMT-1 and TOS-M types of thermistors for remote control and measuring temperature in refrigerator railroad cars. He presents circuits used and describes their operation. There are 3 references, all Soviet (including 2 translations).

Dorofeyev, D. V. Selection of Circuit Elements for Regulating Temperature in Networks With Thermistors on The Basis of Relay Effect

208

The author discusses methods of calculating circuits for regulating temperature in networks with thermistors on the basis of the relay effect. He also explains the concept of relay effect in some types of thermistors. There are 2 references, both Soviet.

Oborin, L. A. Use of Thermistors in Hydrometric Devices.

The author discusses a device for measuring average rate of water flow used in Leningrad water supply systems and describes methods of calculating parameters of basic units of the device. There are 6 references: 4 Soviet and 2 English.

Seleznev, I. V. Use of Thermistors in Automobile Thermometers

220

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Thermistors; Collection (Cont.)

SOV/2773

The author discusses thermistor circuits for controlling temperature of automobile-engine cooling liquid used in some Western countries. There are 5 references, all Soviet (including 1 translation).

Potapov, N. P. Thermistors Made From Manganese and Nickel Oxides

225

The author briefly discusses the method used by Fizicheskaya laboratoriya Odesskogo gidrometeorologicheskogo instituta (Physical Laboratory of Odessa Hydrometeorological Institute) for producing thermistors from manganese and nickel oxides. There are no references.

Potapov, N. P. Electrical Conductivity and Composition of Thermistors From Manganese and Nickel Oxides

226

The author briefly discusses the analysis of experimental thermistors made from manganese and nickel oxides at the Odesskiy gidrometeorologicheskii institut (Odessa Hydrometeorological Institute). There are no references.

Potapov, N. P. Automatic Regulation of Air Temperature in Homes and Public Buildings Equipped With Water Heaters

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Card 11/12

POTASHNIKOV, M.M.

Preparation of quinaldine from coal-tar bases. Zhur.prikl.khim.  
33 no.1:223-226 Ja '60. (MIRA 13:5)  
(Quinaldine) (Coal tar)

DENISOV, G.V.; POTAPYUK, N.N.

Structural features and testing of the hydraulic suspension  
system of S-80 and S-100 tractors. Trakt.i sel'khozmasb.  
30 no.2:2-4 F '60. (MIRA 13:5)  
(Crawler tractors--Hydraulic equipment)

POTAPOV, N.P.; CHEKALINA, Z.A.

Frequency Q-factor dependences of standard measures for testing  
Q-meters. Izv.tekh. no.11:42-43 N '63. (MIRA 16:12)